

CLAIMS

What is claimed is:

1. A reinforcement device capable of being secured to the interior of an electrical box, the electrical box having interior top and interior side regions, the electrical box further having at least one wiring access aperture, said device being further securable to a structural member in structural adjacency to the electrical box, said device being capable of securing the movement of the electrical box relative to the structural member against the weight of a fixture fastenable to the electrical box, said device comprising:

 a top interface providing a mating between said device and the interior top region of the electrical box;

 a side interface providing a mating between said device and the interior side region of the electrical box;

 a rigid member providing resistance to a compressive force applied between said top interface and said side interface; and

 a mating feature for a fastener, said feature providing an attachment point for at least one fastener, said feature oriented in a position relative to said device such that the fastener may be installed through the access aperture to secure said device to a structural member in structural adjacency to the electrical box.

2. A reinforcement device according to claim 1, wherein the side interface provides a mating against a substantially flat surface.

3. A reinforcement device according to claim 1, wherein the side interface provides a mating against a fastener boss.

4. A reinforcement device according to claim 1, wherein the side interface provides a mating against a substantially curved surface.

5. A reinforcement device according to claim 1, wherein the side interface provides matings against any two of a substantially flat surface, a substantially curved surface, and a fastener boss.

6. A reinforcement device according to claim 1, wherein the device is adapted to be installed in two different sized electrical boxes.
7. A reinforcement device according to claim 6, wherein the device is insertable into three and four inch electrical boxes, and includes matings for both.
8. A reinforcement device according to claim 1, wherein the device is adapted to be installed in two different internally shaped electrical boxes.
9. A reinforcement device according to claim 1, wherein the top interface provides a mating against a substantially flat surface.
10. A reinforcement device according to claim 1, wherein said mating feature for a fastener is set to position a fastener at about 60 degrees from the vertical for an electrical box mounted to a vertical structural support surface.
11. A reinforcement device according to claim 1, wherein said mating feature for a fastener is configured to position a fastener such that a driving force may be directly applied thereto by a tool external to the electrical box.
12. A reinforcement device according to claim 1, wherein a downward force on the electrical box is converted partially to a horizontal force vector in the direction of the structural member.
13. A reinforcement device according to claim 1, wherein:
 - the electrical box utilizes fastener positioning members that position fasteners in the same plane; and
 - said mating feature for a fastener is set to position a fastener substantially outside that plane.

14. A reinforcement device according to claim 1, wherein said mating feature for a fastener may accept a pilotless screw, and further that said mating feature for a fastener is set at an angle that permits the turning of the screw with a straight-shafted screwdriver without angle changing adapters, the handle of the screwdriver being outside the confines of the electrical box.

15. A reinforcement device according to claim 1, wherein said rigid member includes a strut-like portion between said top interface and said side interface.

16. A kit for reinforcing a ceiling electrical box containing a reinforcement device capable of being secured to the interior of the electrical box, the electrical box having interior top and interior side regions, the electrical box further having at least one wiring access aperture, said device being further securable to a structural member in structural adjacency to the electrical box, said device being capable of securing the movement of the electrical box relative to the structural member against the weight of a fixture fastenable to the electrical box, said kit comprising:

at least one fastener; and

a reinforcement device having a top interface providing a mating between said device and the interior top region of the electrical box, said device further having a side interface providing a mating between said device and the interior side region of the electrical box, said device additionally including a rigid member providing resistance to a compressive force applied between said top interface and said side interface, said device further having a mating feature for said fastener, said feature providing an attachment point for said fastener, said feature oriented in a position relative to said device such that said fastener may be installed through the access aperture to secure said device to a structural member in structural adjacency to the electrical box.

17. A kit according to claim 16, wherein said fastener is a pilotless screw.

18. A kit according to claim 16, wherein the rigid member of said reinforcement device includes a strut-like portion between the top interface and the side interface of said reinforcement device.

19. A method of reinforcing a ceiling electrical box, the electrical box having interior top and interior side regions, the electrical box further having at least one wiring access aperture, the electrical box being secured to a structural member in structural adjacency to the side region of the electrical box, comprising the step of:

inserting a reinforcement device into the interior of the electrical box, the device having a top interface providing a mating between said device and the interior top region of the electrical box, the device further having a side interface providing a mating between said device and the interior side region of the electrical box, the device also having a rigid member providing resistance to a compressive force applied between said top interface and said side interface, the device further having a mating feature for a fastener, said feature providing an attachment point for at least one fastener, said feature oriented in a position relative to said device such that the fasteners may be installed through the access aperture to secure said device to a structural member in structural adjacency to the electrical box, said inserting bringing the device into a position wherein the top interface is adjacent to the interior top region of the electrical box and wherein the side interface is adjacent to the interior side region of the electrical box; and

securing the device to the structural member by driving fasteners into the side region of the electrical box and further into the structural member, said securing bringing said fasteners attaching said device to the electrical box utilizing the feature providing an attachment point.